DOCUMENT RESUME

ED 174 040 FL 010 507

AUTHOR Walters, Joel
TITLE Language Variation in the Assessment of the Communicative Competence of Bilingual Children: Evidence for the Linguistic Interdependence Hypothesis.
PUB DATE [79]
NOTE 20p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Bilingual Education; *Bilingualism; Bilingual Students; *Communicative Competence (Languages); Dramatic Play; Elementary School Students; English (Second Language); *Language Dominance; *Language Proficiency; Language Research; Language Skills; *Language Tests; Language Usage; *Language Variation; Linguistic Performance; Pragmatics; Questioning Techniques; Spanish Speaking; Student Evaluation
IDENTIFIERS Balanced Bilinguals; *Questions

ABSTRACT

After a critical examination of four assumptions of current procedures in language assessment, it is argued that the pragmatic domain of language ability should be the first to be assessed. A study designed to determine the usefulness of language variation (the number of different structures a child can produce or comprehend) as an alternative approach to language assessment is discussed. Thirty-two elementary school children with Hispanic backgrounds were classified as balanced or non-balanced bilinguals on the basis of performance in the Peabody Picture Vocabulary Test. Request strategies in English and Spanish were elicited with the use of puppets in simulated settings. Balanced bilinguals produced more variation in their second language than non-balanced bilinguals. This finding supports Cummins' 1978 linguistic interdependence hypothesis by showing that a relationship exists between a bilingual speaker's two languages and that this relationship influences performance on certain tasks in the second language. Implications for bilingual education are briefly discussed, and a bibliography is appended. (JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED174040

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Joel Walters

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

LANGUAGE VARIATION IN THE ASSESSMENT OF THE COMMUNICATIVE COMPETENCE OF BILINGUAL CHILDREN: EVIDENCE FOR THE LINGUISTIC INTERDEPENDENCE HYPOTHESIS

Joel Walters
University of Illinois

FL010507

© Joel Walters

In this paper four basic assumptions of current procedures in language assessment are critically examined. It is suggested that if a single domain of language ability is to be assessed, it ought to be the pragmatic domain. Language variation (i.e., the number of different structures a child can produce or comprehend) as an alternative approach to language assessment is discussed. Then, data on an experiment using this method are presented. The evidence indicates that balanced bilinguals produce more variation in their second language than non-balanced bilinguals. This finding is discussed in light of Cummins' (1978) linguistic interdependence hypothesis, suggesting that it be an appropriate entrance criterion for transitional bilingual education programs.

It is often ignored that bilingual educators are not alone in their interest in language assessment. Linguists, psychologists and sociologists have all tried their hands (?minds) at this endeavor (Fishman and Cooper, 1969). The direction of the field has come, however, from the practitioners in an even more diverse set of disciplines, including medicine, clinical psychology, speech pathology, special education, and language education (foreign or native).

The interests of all but the language educators focus on the pathologies of certain populations. Medical personnel, principally neurologists, have assessed the language disorders of brain damaged adults. Such disorders as aphasia, dementia, Korsakoff's syndrome have been assessed. Clinical psychologists have examined the language of this same clientele as well as schizophrenics (e.g., Ross, 1978). Sometimes the speech pathologist is called upon to do diagnostic work with these same groups. In other instances, s/he works with those who exhibit stutters, echolalia and other speech disorders. Similarly, special educators often focus their attention on the speech and language of the developmentally delayed, emotionally disturbed and learning disabled. These last two groups have been the principal professionals involved in the language assessment of children.

The long history of involvement of these disciplines in the field of language assessment should address at least some of the concerns of language educators. Unfortunately, very little cross-fertilization has occurred. This is, in part, due to the need for internal growth that any discipline experiences, especially when it first develops. The lack of cross-fertilization is even evident within the health "sciences" themselves, with only rare contact among neurologists, speech pathologists and clinical psychologists.

On the other hand, it is important to keep in mind that the basic disciplines are interested in language assessment from a very different perspective. The linguist assesses language as an inquiry into the nature of language and its complexities. The psychologist who tests language performance is generally one whose interest is in memory processes. The sociologist might assess language out of an interest in language planning or a more theoretical interest in the distribution of languages in a society or over time.

This paper is not, however, a review of the literature of these disparate approaches to language assessment. Nor is it a state of the art paper on language assessment in bilingual education. Rather, what I intend to do here is the following: first, I will present four basic assumptions of language testing. Then, I will consider an innovative approach to examine language ability. That approach takes language variation (specifically the variation in the use of speech acts) as a measure of language ability in general and communicative competence in specific. Finally, I will present data on the performance of 32 bilingual children on a measure of language variation, discussing the measure and the notion of balanced bilingualism as an entrance criterion to bilingual programs.

Basic Assumptions

This section attempts to call into question some of the basic assumptions in language testing. Some of those assumptions are equally relevant for intelligence and achievement testing. The focus and examples discussed here will remain on language testing, however.

> First Assumption: Language assessment instrument(s) will accurately determine the child's language ability.

The key to the understanding of this assumption lies in what is meant by "language ability." In the literature on language testing, "ability" is often used synonymously with terms like "dominance" and "proficiency." A helpful distinction is to reserve language dominance to a comparison of performance in the first language with performance on the same task in the second language. In the sense of this definition the James Language Dominance Test (James, 1974) and Dos Amigos (Critchlow, 1973) are dominance tests at the lexical level and in the modality of oral production. In contrast, Macnamara (1969) employs the term dominance in describing a task in which the child is asked to read a list of words, some of which have the property of pronounceability in either of the child's two languages. Keller's (1974) Ambiguous Verbal Stimulus Test is a measure of this type for Spanish-English bilinguals. Finally, rating scales (generally self-assessed) and questionnaires on the domains and frequency of usage of the two languages have also been promoted as measures of language dominance. These approaches, especially usage questionnaires, often confuse language dominance with language preference. Questionnaires about the frequency and domains of usage of two languages do not address the issue of language ability and, therefore, should be excluded from the notion of dominance.

Language proficiency tests, on the other hand, confront this issue directly. Within this category fall a wide range of measures, including fluency (Macnamara, 1967), flexibility (Cummins, 1978), imitation or repetition (Swain, Dumas and Naiman, 1974), cloze (Oller and Conrad, 1971) and other procedures. All focus on the child's language skills in a particular language. Thus, if language proficiency is reserved for language ability in a single language, then language dominance is the measure of bilinguality of individuals. This is the traditional sense in which Saer (1923), Malherbe (1934) and Weinreich (1953) understood the measurement of bilingualism. With these definitions, dominance and proficiency

are closely related although clearly not synonymous. Language dominance could be measured by comparing the relative language proficiency of a speaker in each of his/her languages.

Returning now to the assumption that assessment instruments accurately determine the child's language ability, we can see a glaring problem with this assumption. If we cannot at all agree on what it is we are measuring when we speak of language ability in bilingual children, we are in a terrible dilemma. Is it fluency? How about flexibility? Is dominance more important than proficiency in L1 or L2? Moreover, the problem of what to measure logically precedes the equally difficult question of the validity of the instrument we are using. A partial solution to this problem is to consider language assessment from the perspective of the entire range of the child's abilities. Thus, rather than measuring dominance only at the lexical level and in a single modality, it could be measured at a variety of linguistic levels (viz., phonological, syntactic, pragmatic) and in several modalities (viz., reading, speaking, writing, listening). This approach would permit language ability to be examined as an aggregate of skills. (Walters, Vega and Crespo, 1978, describe how the notion of an aggregate of skills might be implemented for use in bilingual programs.) Thus, by broadening the number and type of instruments used to assess language ability, it is possible to increase the accuracy of the assessment.

Another problem in current assessment procedures is that the same instruments are used for a diverse set of reasons. The same tests are given as both entrance and exit criteria of the bilingual program. There is no a priori reason to believe that the same instrument can perform these different functions. Entrance criteria, to a bilingual program, even under a strict constructionist

view of the most transitional bilingual law, ought to be determined by what will allow the child the best opportunity to develop cognitively, academically and socially. In all likelihood this will involve parents' attitudes toward bilingual education as well as socio-cultural factors in the community. Transition to the monolingual curriculum may also involve this information. It will also take into account how well the child can perform in that monolingual curriculum. Entrance criteria, then, might emphasize an assessment based on the social context while exit criteria might draw more upon academic achievement. Similarly, one might expect different assessment measures for such varying needs as placing children in a bilingual program, grouping them within a classroom and diagnosing strengths and weaknesses of an individual child. To expect that a single instrument would perform all of these functions is highly unreasonable.

Second Assumption: There exists a standard or norm against which one can measure the language ability of bilingual children.

In assuming the existence of a standard or norm for language development, we are assuming that the group which provided those norms is, by and large, homogeneous. Omark (in press) notes that even intelligence tests recognize a certain amount of group heterogeneity in publishing separate norms for males and females. The hazards, then, of using group norms against which to measure the performance of language minority children are even greater.

The fact that the same standardized tests are used in bilingual programs for children of highly diverse linguistic and cultural backgrounds is only a symptom of the greater problem. An example may help elucidate the depth of the dilemma. If we consider the use of the Bilingual Syntax Measure (Dulay, Burt, and Hernandez-Chavez, 1975), we see the authors recommend it for at least two groups of Latino children -- Puerto Ricans and Chicanos. Yet we know, that language variation among Chicanos in New Mexico alone, may contribute to

differences in language performance on this test. Part of the reason that these differences are not accounted for in the norms or use of this instrument stems from some research carried out by Dulay and Burt (1974) on the order of morpheme acquisition. That work demonstrated the similarity in the order of acquisition of ten English morphemes (e.g., plural, progressive, past, etc.) among children of three different language backgrounds. These were Chinese speakers, Spanish speakers and monolingual speakers of American English. Based on these data, the authors concluded that the acquisition order was an invariant or universal one. This conclusion, which has been questioned from both empirical (Hakuta, 1974) and methodological (Rosansky, 1976) perspectives, has encouraged the use of the Bilingual Syntax Measure with children of many different language backgrounds. Whether norms (not to mention universals) can be developed is one problem. Whether an instrument which focuses solely on morpheme production should be used as a single measure of language ability is more serious.

Third Assumption: Language assessment instruments will determine the effects of educational intervention.

This third assumption, in addition to presuming the validity of the instruments, claims that all of the relevant variables involved in the educational program (e.g., bilingual education) can be enumerated and measured. Clearly, this is not the case. In fact, recent theoretical work in bilingual education for language minority children (Cummins, 1978; Fishman, 1977; Paulston, 1977) indicates that the variables associated with the bilingual program and the educational outcomes for the child merely represent intervening variables in a chain whose antecedent factors can be found in political conflict and community attitudes among other things. Moreover, even the variables connected with the bilingual program provide ample material to allow personnel to do nothing but assessment the entire school year. These variables include ecological factors

(e.g., the location of the program, the distribution of children by age and ethnicity within the program and within the classroom, and the physical environment of the classroom), instructional factors (e.g., the age, ethnicity and experience of the teacher, the teacher's personality and the nature of his/her interaction with supportive staff and the language in which instruction occurs) as well as attitudinal factors most directly affecting the program such as teacher and parent attitudes toward bilingualism and bilingual education. Clearly all of these cannot be assessed and examined in light of the child's language abilities. The last assumption will hopefully shed some light on some potentially viable compromises for this problem.

Fourth Assumption: Language ability can be measured apart from communicative ability and social context.

In reviewing current test instruments and developments in the field of language assessment often it seems as if no one has bothered to ask the following question: What is the purpose in assessing the language abilities of language-minority children? Moreover, if the question was asked, then the probable answer ran something like the following: To determine whether a child "needs" bilingual education. Rarely are the concerns focused on how well the child can communicate with teachers, peers or in his/her community.

This current approach to assessment assumes that structural aspects of language will account for everything a child needs to know to do well in school. It also assumes that the testing situation (i.e., the setting, the personality and social identity of the tester and the rapport which the tester establishes with the child) is irrelevant to the child's performance. This latter assumption impinges on other types of assessment although perhaps to a greater extent in language testing. The rest of this discussion will focus on the notion that

structural aspects of language are considered a sufficient measure of a child's language abilities.

The particular structural features which are measured most often in the language assessment of American bilingual children are those related to morphology and the lexicon. In addition, the modality most often assessed is production. The poverty of this method is not that these are assessed, but rather, that they alone tend to be considered determinants and predictors of the child's language performance. Similarly, it would seem to be the case that more complex semantic, syntactic and pragmatic features of language would represent better indicators of the child's overall communicative ability. If, in fact, a single linguistic level were to be selected for assessment of performance, the most rational choice would be the pragmatic domain.

Pragmatics, by definition (Fraser, 1977), incorporates linguistic information, contextual knowledge and performance factors (i.e., the manner in which a sentence is uttered). Fraser states that pragmatics can be defined as:

> . . .a function which takes the linguistic description of a sentence which has been uttered in a specific context in a specific way, and relates this utterance to the semantic reading of a sentence which captures the meaning intended by the speaker of the utterance. (p. 3)

Two problems are most obvious when one begins to consider the assessment of pragmatic abilities as a measure of communicative competence. The first problem is practical. How does one select the most critical and predictive data from the wide range of semantic, contextual and performance information available given time constraints and limited resources? The second problem is perhaps even more difficult. Given the inherent (and extreme) variability of pragmatic data, how does one begin to measure it and compare children's performance on the basis of it? The rest of this paper will try to suggest answers to these

questions. I will examine the notion of language variation as a measure of language ability and potentially useful tool for language assessment.

Linguistic Variation as a Measure of Language Ability: A New Direction

The use of language variation as a measure of language ability is predicated on the following assumption: The more ways a speaker can say something, the more communicative situations s/he can function in. By "more ways", I limit myself in this paper to structural variation. Communication competence and sociolinguistic appropriateness are dealt with elsewhere (Walters, 1979). The starting point in generating an assessment device for linguistic variation is to identify those structures with a tremendous degree of variation and those with only minimal variation. One would presumably want to sample structures from the middle and both ends of this spectrum.

I begin here with an example of an English structure of limited variation. Possession in English is indicated with one of two forms, as demonstrated in the following examples:

> That red sweater of John Edward Ping is on the floor.
> John Edward Ping's red sweater is on the floor.

Basically, then, possessive function in English is marked either by the preposition _of_ before the head noun or by _'s_ following the head noun. In the former case, _belonging to_ or one of its clausal variants sometimes replaces _of_ as the possessive marker. Since the relative position of the two crucial noun phrases (possessor and possessed) does not change, I consider this variation to be at the lexical level and, therefore, less interesting to the present problem. Thus, with only two ways to accomplish the possessive, a very small number of test items ought to ascertain a speaker's ability to use them both.

An example with much greater variation is the ability to produce the various linguistic forms of questions. Yes - no, wh- and tag questions represent categories of a more general nature. Even among wh- questions, however, a significant degree of variation exists. Which, what, when, who, where, how and why are the most obvious markers of variation in this category. Obviously, the number of test items in this instance will exceed the number for the possessive.

The construction of test items follows as the next step in the development of an assessment instrument. For this task, efficiency and practicality take on a much greater significance. Clearly one does not want to wait for a spontaneous speech sample to produce the contexts in which both forms of the possessive and all seven wh- question words ought to be elicited. On the other hand, elicited imitations (Swain, Dumas and Naiman, 1974) or repetition of sentences containing each form may not indicate the speaker's accessibility to the structure. This procedure would, however, indicate the speaker's baseline ability with a given structure, and it represents a most efficient technique for examining the ability to produce the rarer forms of certain structures (e.g., how). As a compromise between spontaneous speech and immediate repetition one might want to experiment with oral cloze procedures as well as various types of comprehension tasks in which the student is asked to identify the correct one of a series of pictures. Finally, in eliciting the structures of question formation the examiner may simply wish to ask the student to ask as many questions as possible about a given object, event or situation.

The scoring of these procedures, like their construction, ought to reflect breadth of performance rather than the ability to produce a single form. Thus, a repetition task in which each form is sampled three times cannot simply be scored as percent correct overall. It must take into account the number of

distinct forms which were produced correctly. In fact, if data are available on the form most widely used, this information might be incorporated into the scoring system.

As a first order approach to language assessment, the value of linguistic variation seems clear. That variation would appear to provide a better measure of ability, since it focuses on the range of linguistic contexts rather than a single one. Moreover, a number of elicitation procedures borrowed from standardized instruments and current research already exist. And finally, it is possible to adapt scoring techniques to reflect the emphasis on variation.

A Study of Language Variation Among Bilingual Children

This study takes as its starting point the notion proposed by Cummins (1978) that "competence in a second language (L2) is partially a function of the type of competence already developed in L1." (p. 1) The study compares balanced bilinguals with non-balanced bilinguals in order to examine the role of first language abilities in the acquisition of a second language. There are several additional reasons for using the balanced-non-balanced construct in evaluation research of this type. First, there is every reason to believe that bilingualism is a multidimensional phenomenon (Cummins, 1976) influenced by a complex of social, psychological and linguistic factors. This dichotomy (balanced vs. non-balanced) represents an attempt to parcel out some of the complexity of the linguistic aspects of bilingualism. Next, educational research settings cannot always provide monolingual groups of comparable socio-economic status and intelligence. Nor would such comparisons necessarily be advisable in view of the potential heterogeneity among human subjects in general and bilinguals in particular. Finally, based on the evidence to be presented here as well as the

research of others (Balkan, 1970; Cummins, 1976) the balanced-non-balanced construct may suggest an appropriate entrance criterion for bilingual education programs where the goals of those programs are limited and transitional. The major hypothesis was that balanced bilinguals would vary their request strategies in English (L2) more than non-balanced bilinguals.

Subjects

Thirty-two children whose ages ranged from 7 years, 7 months to 11 years, 4 months ($\bar{x}$ = 9 years, 6 months) participated in the investigation. The study included equal numbers of males and females. The age of the boys was 9;5 while the girls mean age was 9;7. Of the 32 children, 29 were Puerto Rican and 3 represented other Latino backgrounds. Thirteen were born on the U.S. mainland and 14 were born either on the island of Puerto Rico or in another country.

Subjects were assigned either to the balanced bilingual group or non-balanced group based on their performance on Spanish and English versions of the Peabody Picture Vocabulary Test (Dunn, 1959). Any child whose raw scores on the two tests did not show a difference of more than eight items (i.e., the Spanish score minus the English score was less than or equal to eight) was assigned to the balanced group. The number of subjects in this group totaled fifteen. Children whose Spanish Peabody score exceeded their English score (or vice-versa) by more than eight were assigned to the non-balanced group. Seventeen children were classified as non-balanced bilinguals.

Procedures

The elicitation technique was designed to maximize the amount of linguistic variation in a child's performance. This was accomplished by selecting request strategies as the linguistic variant since these encompass a robust amount of

variation. There are more than twenty semantic strategies for conveying a request in English (e.g., can, could, will, do, imperative among others). In addition, the status of the listeners as well as social domains (supermarket, school, neighborhood) and topics which have shown stylistic variation- and code-switching in other research (Fishman, Cooper and Ma, 1971; Walters, 1978) were manipulated to maximize the degree of linguistic variation.

Eight puppets served as addressees in the experiment. After the two experimenters introduced themselves, the experimenter of the same sex as the child then presented a puppet matching the age, sex and race of the child. This puppet functioned as a friend who needed assistance in making requests. After a brief, spontaneous conversation (one to two minutes) the "friend" puppet initiated the first of four protocols which simulated a supermarket, a school and two neighborhood settings. In each setting the child made two requests.

Each child spoke to two of eight possible puppets (e.g., the old male white puppet and the young female black one) in each of the four settings in English and in each of the four settings in Spanish, yielding a total of eight requests in each language. The settings and topics used to elicit the requests were:

1.	Supermarket	a. requesting to be shown rice
		b. requesting to get ahead in the checkout line
2.	Lunch Money	a. requesting lunch money in the cafeteria
		b. requesting lunch money in the school office
3.	Outside at Play	a. requesting to play in the addressee's yard
		b. requesting a ball to play with
4.	Outside Selling Cookies	a. requesting that the addressee buy some cookies
		b. requesting that the addressee sign a form

Result and Discussion

The hypothesis that balanced bilinguals would vary their request strategies in their second language, English, more than non-balanced bilinguals was supported by the data. Balanced bilinguals produced an average of 4.93 (out of a possible 8) request strategies in English while the mean for non-balanced bilingual children was 3.88. A comparison of means (df = 1,30) yielded a t-value equal to 5.42 which was significant ($p<.03$).

This finding indicates several things. First and most basic, it tells us that bilingual children do not represent a homogeneous group. The fact that some bilinguals do better than others on any task is sufficient for such a conclusion. Second, the finding adds validity to the dichotomy between balanced and non-balanced bilingualism. The present result alone is not sufficient to support the dichotomy. However, this result in combination with other findings of a similar nature (cf., Cummins, 1976 for a review) as well as further research with greater numbers of subjects and different populations may yet indicate the usefulness of such a distinction.

Third, the fact that balanced bilinguals performed better than English-dominant and Spanish-dominant children on a task of verbal flexibility (i.e., the number of distinct request strategies a child produces) lends support to the linguistic interdependence hypothesis proposed by Cummins (1978). The finding shows: 1) that a relationship exists between a speaker's two languages and that 2) that relationship influences performance on certain tasks in the second language. Any stronger claims seem unwarranted at this point due to the limited number of subjects and the absence of a monolingual comparison group.

Finally, the superior performance of balanced bilinguals if corroborated in future research would have several far-reaching educational implications. Simple

language dominance (as measured by commercially-available assessment instruments) seems wholly inadequate as an entrance criterion to a bilingual education program. The non-balanced group in this study included some children who were English-dominant and others who were Spanish-dominant. The results from this study indicate that sending a "bilingual" child who is English-dominant to an all-English program may not be sound educational practice. Despite his/her dominance in English s/he does not perform as well as balanced bilinguals. Research in other settings (Balkan, 1970; Cummins and Gulutsan, 1974) further support this conclusion, since non-balanced bilinguals performed poorer than monolinguals in those studies. Thus, the common practice of selecting children for bilingual programs based solely on their language dominance seems less than desirable. The notion of balanced bilingualism would appear to be a more discriminating construct and, therefore, more appropriate as one of a variety of criteria (including social, attitudinal as well as other intellectual) for placing a child in a bilingual education program.

It must be cautioned that these findings (and conclusions) seem to be tenable only with measures of cognitive flexibility, verbal divergence and linguistic variation. In the case of the work reported here, it was the number of different request strategies a child could produce that distinguished balanced from non-balanced bilinguals. Furthermore, the measure of balance may need to be fairly rigorous in order to guarantee relative homogeneity of the balanced and non-balanced groups. Thus, perhaps a discrepancy of more than ten items on the two versions of the Peabody would not have produced the same finding. In addition to research on larger and different populations it is important to experiment with other methods for classifying children as balanced and non-balanced bilinguals.

References

Balkan, L. (1970) Les Effets du Bilinguisme Francais-Anglais sur les Aptitudes Intellectuelles. Bruxelles, Aimav.

Critchlow, D. E. (1973) Dos Amigos: Verbal Language Scales. San Rafael, California: Academic Therapy Publications.

Cummins, J. (1976) The Influence of Bilingualism on Cognitive Growth: A Synthesis of Research Findings and Explanatory Hypotheses. Working Papers in Bilingualism, 9, 1-43.

Cummins, J. (1978) Linguistic interdependence and the educational development of bilingual children. Paper presented to the Fifth International Congress of Applied Linguistics, Montreal.

Cummins, J. and Gulutsan, M. (1974) Bilingual education and cognition. Alberta Journal of Educational Research, 5, 259-266.

Dulay, H. C. and Burt, M. K. (1974) A new perspective on the creative construction processes in child second language acquisition, Language Learning, 24, 253-278.

Dulay, H. C., Burt, M. K. and Hernandez-Chavez, E. (1975) The Bilingual Syntax Measure. New York: Harcourt Brace Jovanovich, Inc.

Dunn, L. M. (1959) The Peabody Picture Vocabulary Test. Circle Pines, Minnesota: American Guidance Services, Inc.

Fishman, J. A. (1977) The social science perspective. In Bilingual Education: Current Perspectives, Vol. 1. Social Science. Arlington, Va.: Center for Applied Linguistics.

Fishman, J. A. and Cooper, R. L. (1969) Alternative measures of bilingualism. Journal of Verbal Learning and Verbal Behavior, 8, 276-282.

Fishman, J. A., Cooper, R. L., and Ma, R. (1971) Bilingualism in the Barrio. Bloomington: Indiana University Press.

Fraser, B. (1977) On Requesting: An Essay in Pragmatics. Unpublished manuscript, Boston University.

Hakuta, K. (1974) A preliminary report on the development of grammatical morphemes in a Japanese girl learning English as a second language. Working Papers in Bilingualism, 3, 18-43.

James, P. (1974) James Language Dominance Test. Austin, Texas: Learning Concepts.

Keller, G. (1974) Ambiguous Verbal Stimulus Test to Measure Language Dominance in Spanish-English Bilinguals.

Macnamara, J. (1967) The bilingual's linguistic performance: a psychological overview. Journal of Social Issues, 23, 58-77.

Macnamara, J. (1969) How can one measure the extent of a person's bilingual proficiency? In L. G. Kelly (ed.) The Description and Measurement of Bilingualism. Toronto: University of Toronto Press.

Malherbe, E. M. (1934) The Bilingual School; a Study of Bilingualism in South Africa. Johannesburg.

Oller, J. W. and Conrad, C. A. (1971) Cloze technique and ESL Proficiency. Language Learning, 21:1.

Omark, D. (in press) Psychological testing and bilingual education: the need for reconceptualization.

Paulston, C. B. (1977) Research Viewpoint. In Bilingual Education: Current Perspectives, Vol. 2. Linguistics. Arlington, Va., Center for Applied Linguistics.

Rosansky, E. J. (1976) Morpheme studies and second language acquisition: a question of methods. Paper presented at the 10th Annual TESOL Conference, New York.

Ross, R. (1978) Measuring some semantic and pragmatic variables in the speech of two men in psychotherapy. Paper presented to the Fifth International Congress of Applied Linguistics, Montreal.

Swain, M., Dumas, G., and Naiman, N. (1974) Alternatives to spontaneous speech: elicited translation and imitation as indicators of second language competence. Working Papers in Bilingualism, 3, 68-79.

Saer, D. J. (1923) The effect of bilingualism on intelligence. British Journal of Psychology, 14, 25-38.

Walters, J. (1978) Variation in the requesting strategies of bilingual children. Paper presented at the Fifth International Conference of Applied Linguistics (AILA), Montreal.

Walters, J. (1979) Language Variation as a Tool in the Assessment of Communicative Competence. (Unpublished manuscript)

Walters, J., Vega, C. C., and Crespo, O. L. (1978) Designs and Guidelines for the Evaluation of State Bilingual Programs. Springfield, Illinois: Illinois Office of Education.

Weinreich, U. (1953) Languages in Contact. The Hague: Mouton.